Bidhan Chandra College

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Asansol – 4, Dist – Burdwan , West Bengal , Ph : 0341-2283020 / 3058 , www.bccollegeasansol.org

Notice for Unit Test

All concerned 3rd and 5th semester (Hons.) Mathematics students are here by informed that the unit test will be held as per the following routine in **online mode.**

5th Semester:

Paper	Date	Time
Set Theory and Metric Spaces(CC-11)	02/11/2023	12:00 – 1:00 pm
Advanced Algebra (CC-12)	02/11/2023	1:00 – 2:00 pm
Integral Transformation and Fourier Analysis (DSE-1)	03/11/2023	12:00 – 1:00 pm
Linear Programming and Game Theory (DSE-2)	03/11/2023	1:00 – 2:00 pm

3rd Semsester:

Paper	Date	Time
Multivariate Calculus (CC-5)	02/11/2023	11:00 – 12:00 pm
Group Theory (CC-6)	02/11/2023	12:00 – 1:00 pm
Probability and Statistics (CC-7)	03/11/2023	11:00 – 12:00 pm
Programming Language in C (SEC-1)	03/11/2023	12:00 – 1:00 pm

Dated: 31/10/23

31/10/23

HOD

Department of Mathematics

Bidhan Chandra College, Asansol-4

HOD IN MATHEMATICS
B.C. College, Asansol

B.Sc. (Hons.) Semester-V Unit Test 2023

Course: **Set Theory and Metric Spaces ,**

Course Code: ***BSCHMTMC501(CC-11) ,***

Date: 02/11/2023 ,

Department of Mathematics , Bidhan Chandra College, Asansol-4
Full Marks: 20 (Answer any five question), **Time:** 30 Mins

* Indicates required question

1. Name *

2. Registration Number *

3. **Q1. Define an open and a closed set in a metric space.**

4. **Q2. Prove that if a set is open then it's complement is closed.**

5. **Q3. Give an example to show that a discrete metric space of any set can not have a limit point.**

6. **Q4. If A and B are both countably infinite then prove that A U B is also countably infinite.**

7. **Q5. In a metric space (X, d) prove that the union of finite number of closed set is closed.**

8. **Q6. If a set A is countable , find a bijection map from A to N , where N is the set of Natural number.**

Classical Mechanics and Special Theory of Relativity (Online Test)

2023-2024

* Indicates required question

1. Email *

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2. Name- *

3. Mobile No.- *

4. Registration No.- *

INTERNAL EXAMINATION

Choose the correct option

5. 1. A central force is always

Mark only one oval.

- (a) Conservative in nature
- (b) Dissipative in nature
- (c) Both of these
- (d) None of the above

6. 2. Escape velocity is given by the expression [g= acceleration due to gravity, R=Radius of the Earth]

Mark only one oval.

- √gR
- √2gR
- √3gR
- √gR/2

7. 3. The law of Universal gravitation of Newton follows from

Mark only one oval.

- (a) Newton's laws of motion
- (b) The law of conservation of energy
- (c) Kepler's laws of planetary motion
- (d) None of the above

8. 4. The degrees of freedom of a particle moving on the circumference of a circle is

Mark only one oval.

- (a) 3
- (b) 2
- (c) 1
- (d) 6

9. 5. A particle is placed on the top of a sphere in a gravitational field and allowed to slide without friction. Then the motion has

Mark only one oval.

- (a) no constraint
- (b) a holonomic constraint
- (c) a non-holonomic constraint
- (d) a rheonomic constraint

10. 6.

The Lagrangian of a particle moving in a plane under the influence of a central potential is $L = \frac{1}{2}m(\dot{r}^2 + r^2\dot{\theta}^2) - V(r)$. The generalized momenta corresponding to r and $\dot{\theta}$ are

(a) $m\dot{r}$ and $mr^2\dot{\theta}$

(b) $m\,\dot{r}$ and $mr\dot{\theta}$

(c) $m\dot{r}^2$ and $mr^2\dot{\theta}$

(d) $m\dot{r}^2$ and $mr^2\dot{\theta}^2$

Mark only one oval.

- (a)
- (b)
- (c)
- (d)

11. 7.

If $\frac{dL}{dq_n} = 0$, where L is Lagarngian of a conservative system and q_n is generalised coordinate, then the generalised momentum is,

(a) a constant of motion
(b) a cyclic co-ordinate
(c) equal to zero
(d) undefined

Mark only one oval.

- (a)
- (b)
- (c)
- (d)

12. 8. The number of degrees of freedom of two particles moving on a space curve and having a constant distance between them, is

Mark only one oval.

- (a) 4
- (b) 3
- (c) 2
- (d) 1

13. 9.

The path of a particle of mass m moving under some potential V(r) is given by r= a exp(aθ), where A and a are constants. The form of V(r) is

(a) E-$\frac{(1-a^2)}{mr^2}L^2$
(b) E-$\frac{(1-a^2)}{2mr^2}L^2$
(c) E-$\frac{(1+a^2)}{2mr^2}L^2$
(d) E-$\frac{(1+a^2)}{mr^2}L^2$

[L and E are angular momentum and total energy respectively]

Mark only one oval.

- (a)
- (b)
- (c)
- (d)

14. 10. The period of a ‘seconds’ pendulum as measured by an observer moving with a speed of 0.8c (where c is the speed of light) is

Mark only one oval.

- (a) 0.33sec
- (b) 3.33sec
- (c) .033sec
- (d) .0033sec

15. 11. Which of the following has unit joule-sec

Mark only one oval.

- moment of inertia
- torque
- angular momentum
- power

16. 12. A ring and a disc have the same mass and radius. The ratio of their moments of inertia about their axes is

Mark only one oval.

- 1:1
- 2:1
- 4:1
- 1:2

17. 13. A rigid body is rotating about an axis. To stop the rotation, we have to apply

Mark only one oval.

- pressure
- force
- momentum
- torque

18. 14. Orbital velocity of earth satellite does not depend on

Mark only one oval.

- mass of earth
- mass of the satellite
- radius of the earth
- acceleration due to gravity

19. 15. The period of revolution of a certain planet in an orbit of radius R is T. Its period of revolution in an orbit of radius 4R will be

Mark only one oval.

- 2T
- T
- 4T
- 8T

Classical Mechanics and Special Theory of Relativity (Online Test)

9 responses

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Name-

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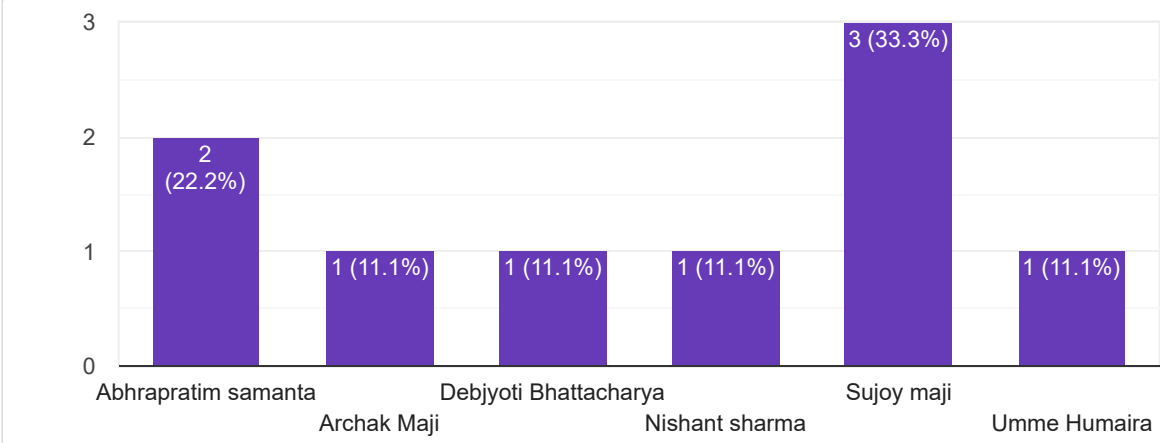
9 responses



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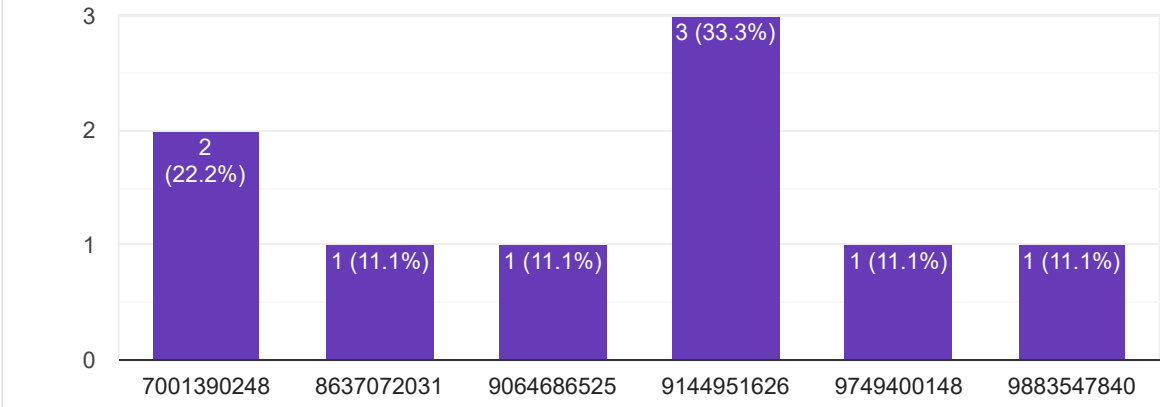

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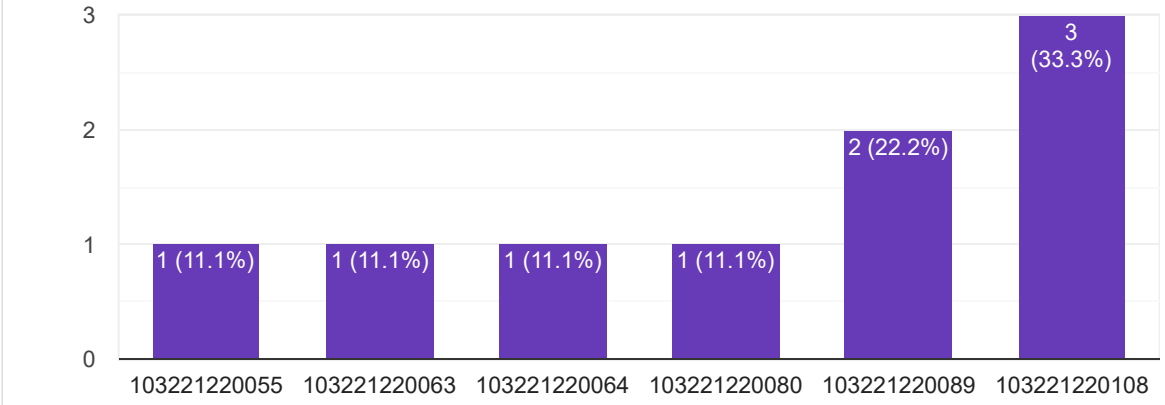

Choose the correct option

1. A central force is always

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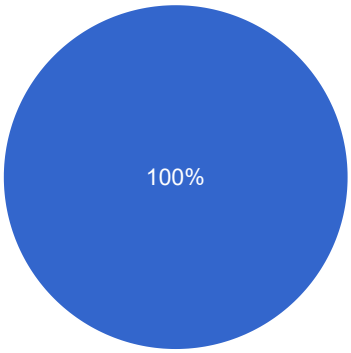
9 responses



- (a) Conservative in nature
- (b) Dissipative in nature
- (c) Both of these
- (d) None of the above

2. Escape velocity is given by the expression [g= acceleration due to gravity, R=Radius of the Earth]

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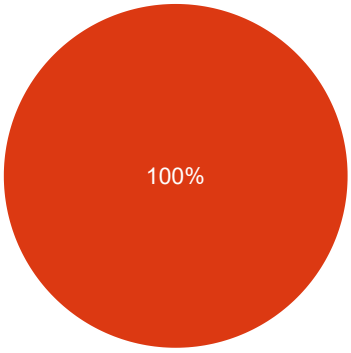
9 responses



- √gR
- √2gR
- √3gR
- √gR/2

3. The law of Universal gravitation of Newton follows from

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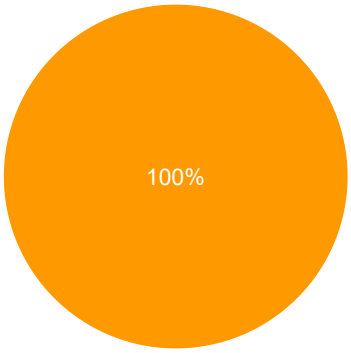
9 responses



- (a) Newton's laws of motion
- (b) The law of conservation of energy
- (c) Kepler's laws of planetary motion
- (d) None of the above

4. The degrees of freedom of a particle moving on the circumference of a circle is

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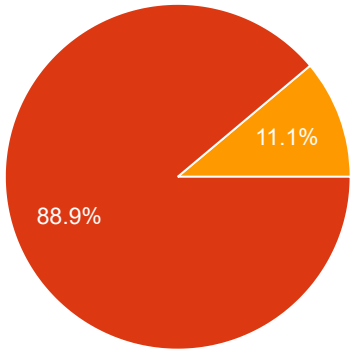
9 responses



5. A particle is placed on the top of a sphere in a gravitational field and allowed to slide without friction. Then the motion has

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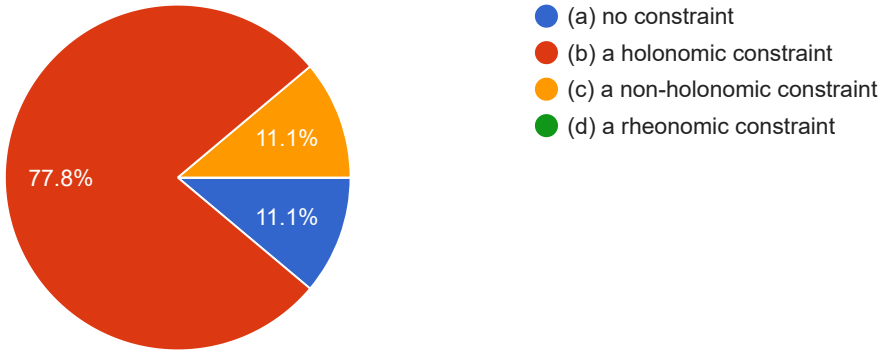
9 responses



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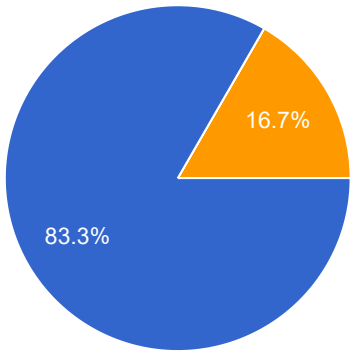
6 responses



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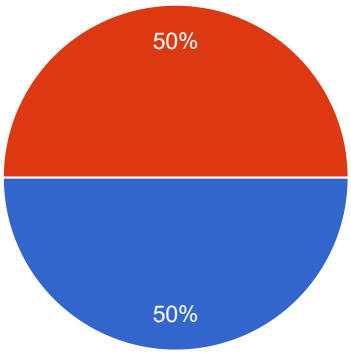

8. The number of degrees of freedom of two particles moving on a space curve and having a constant distance between them, is

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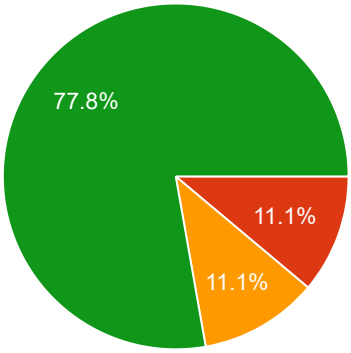
9 responses



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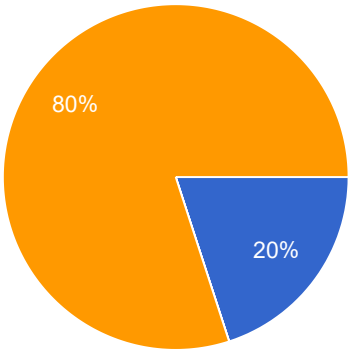
5 responses



10. The period of a ‘seconds’ pendulum as measured by an observer moving with a speed of 0.8c (where c is the speed of light) is

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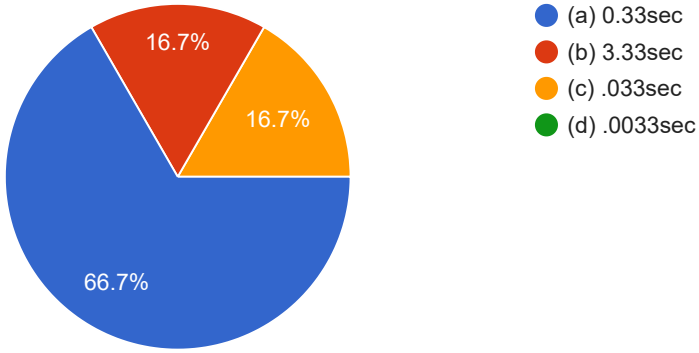
6 responses



11. Which of the following has unit joule-sec

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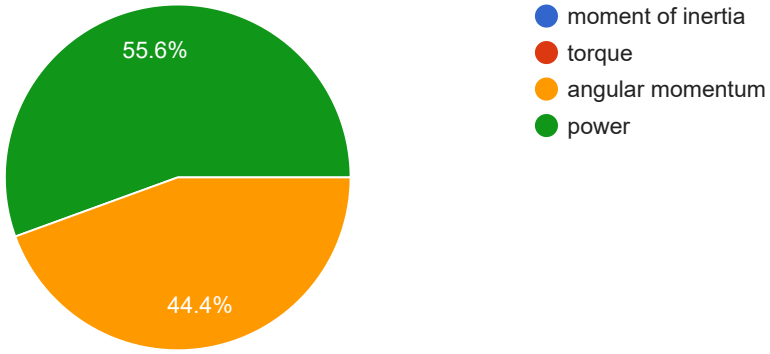
9 responses



12. A ring and a disc have the same mass and radius. The ratio of their moments of inertia about their axes is

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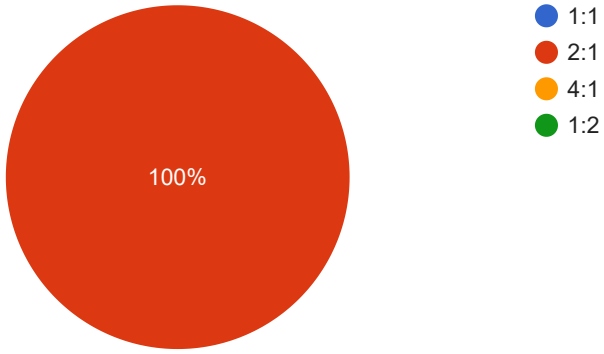
7 responses



13. A rigid body is rotating about an axis. To stop the rotation, we have to apply

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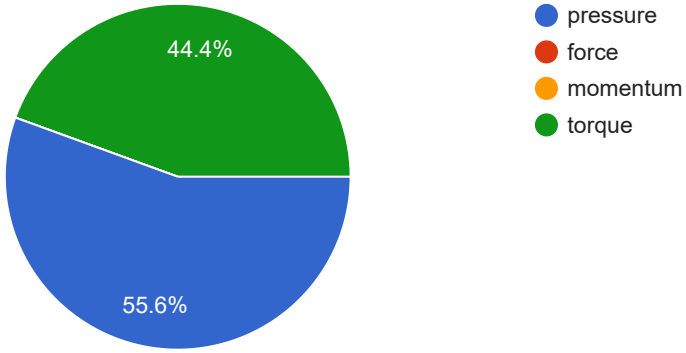
9 responses



14. Orbital velocity of earth satellite does not depend on

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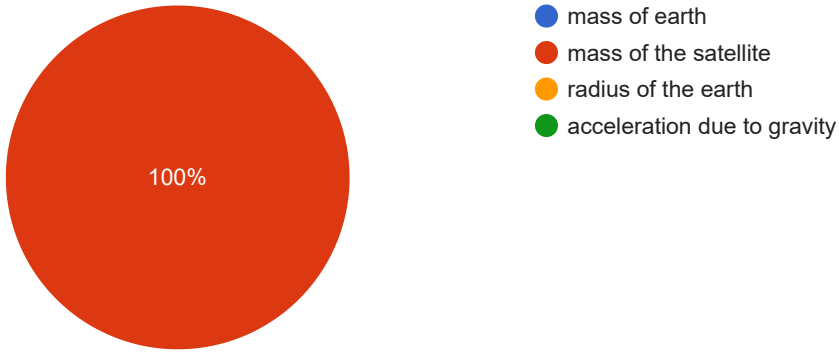
9 responses



15. The period of revolution of a certain planet in an orbit of radius R is T. Its period of revolution in an orbit of radius 4R will be

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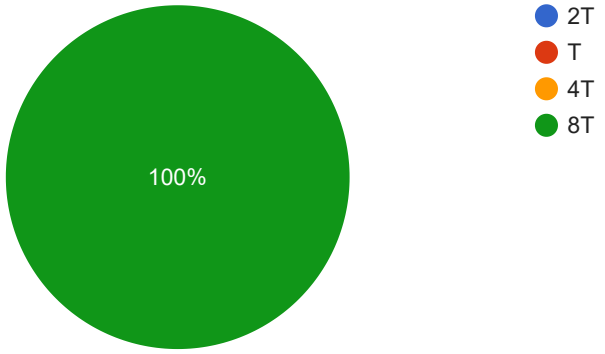
9 responses



5th SEMESTER (H) INTERNAL EXAMINATION 2023

49 responses

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Name of the Student

49 responses

Suity Ruidas

Mrinangshi dey

Indra Gorai

Samiran Dey

Shayeshta parween

Sonali chakraborty

Abhijit Bit

Koushik das

Simran Srivastav

Saima Sarfaraz

Saba firdous

Ladli kumari

Tabir khatoon

Neha Chakraborty

Vidya kumari

Atia fatima

Souradip Sinha

Ritu Kumari

Azra Sarwat

Ayan sadhu

Yasmeen parween

Md kaiful warah

ADEBA ERUM

Maryam Iqbal

MD SHOAIB AKHTER

Afreen naaz

Saba Khatoon

Kainat perween

Nazish parween

Rehana khatoon

Jiten Das

Sania jamal

Shahreen perween

Md kaif

Heena parween

Afreen Hameed

Saima perween

Farzana khatoon

Muskan parween

Azima Zafar

OSAMA PERWAIZ

Shagufta parween

Naaz parween

Rizwana zaffar

Khusi mondal

Saba Tarannum

Sana perween

Shayesta Aafrin

Sayan sadhu

Registration No. and Session

49 responses

103211210072 ,2021- 2022

103211210428

103211210058 of 2021-2022

103211210401 of 2021-2022

103211210161 2021-22

103211210184 of 2021-22

103211210254 of 2021-2022

103211210177 of 2021-22

103211210380

103211210501 of 2021_22

1032

103211210389

103211210207

103211210179 (2023-2024)

103211210289

286

103211210096 Of 2021-22

103211210482

103211210167 of 2021-22

103211210055 2021-22

103211210037

103211210384. 2021-22

103211210088 of 2021_22

103211210079(2021_22)

103211210465 2021/2022

103211210075(21-22)

103211210142 (2021 - 2022)

103211210490 2021_22

103211210030 2021-22

103211210323

103211210430 of 2021-22

103211210293 of 21-22

103211210365 of 2021-22

103211210080 2021-2022

103211210029 2021 2022

103211210305 2021-22

103211210275 (2021- 22)

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103211210422 of 2021-22

0191. (2021_22)

103211210148 (2021-22)

103211210195 Session:- 2021-22

103211210091/2021-22

103211210176.2021-22

103211210054of2021-22

Paper name and Paper code

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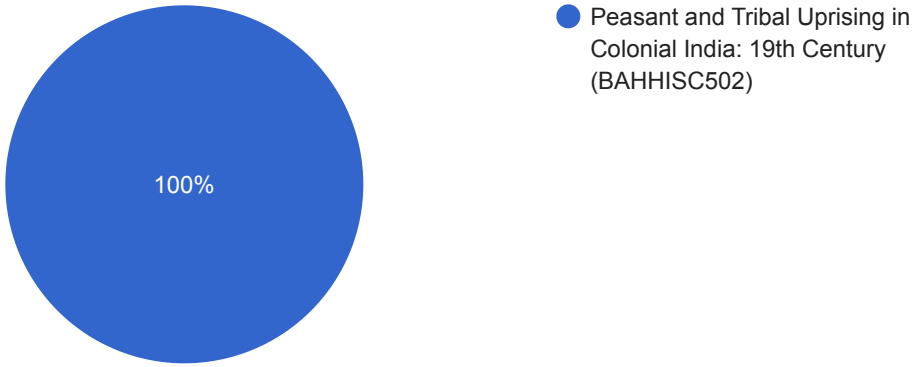
49 responses



Answer all the questions, each question carries 1 mark.

1. Bishnucharan Biswas and Digambar Biswas was associated with

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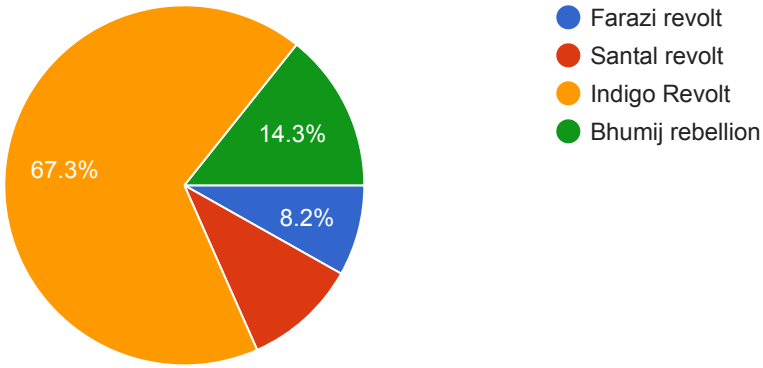
49 responses



2. Who was Mir Nisar Ali?

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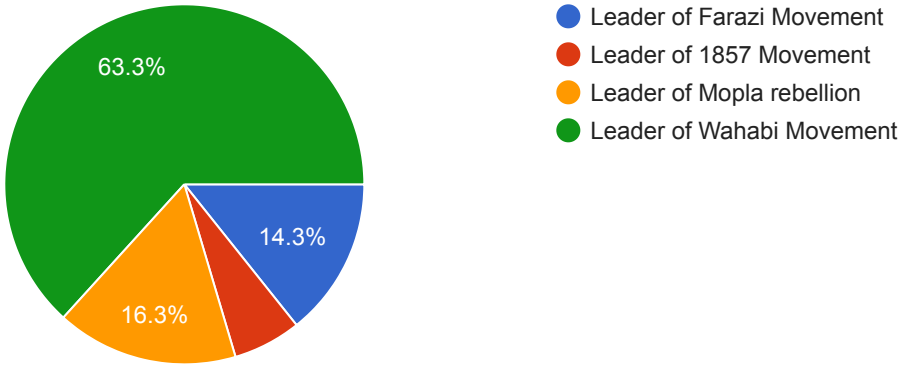

3. Name of the author of the book "Elementary aspects of peasant insurgency in colonial India."

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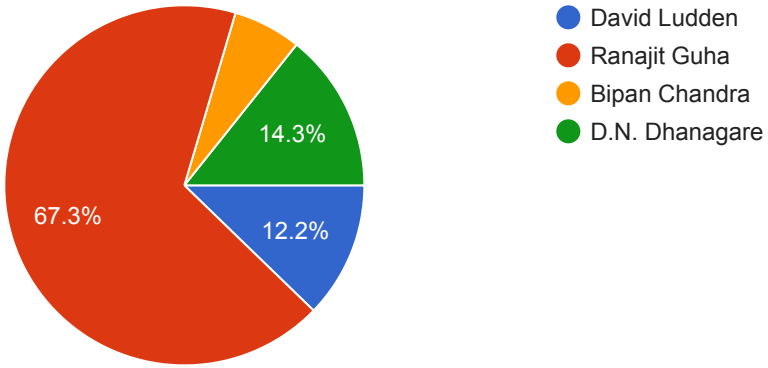

4. Santal uprising took place in which of the following region of Jharkhand?

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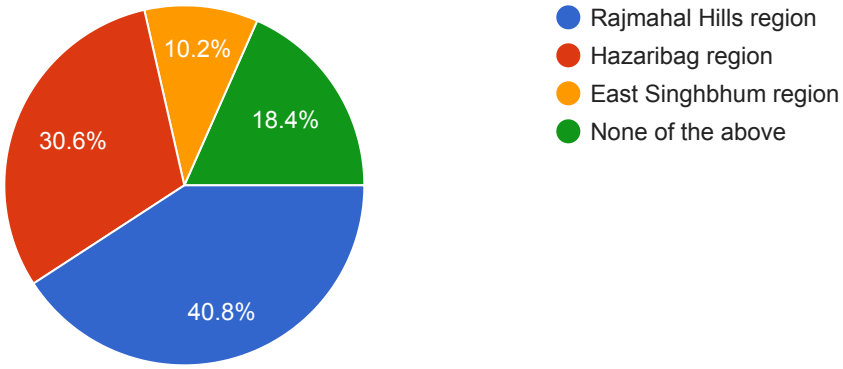
49 responses



5.In Which of the following region Munda Revolt took place?

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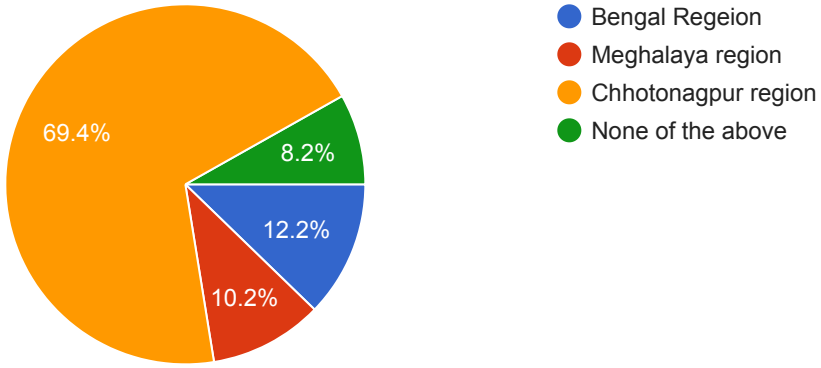
49 responses



6. Who is the author of 'Peasant movement in India, 1920-1950'?

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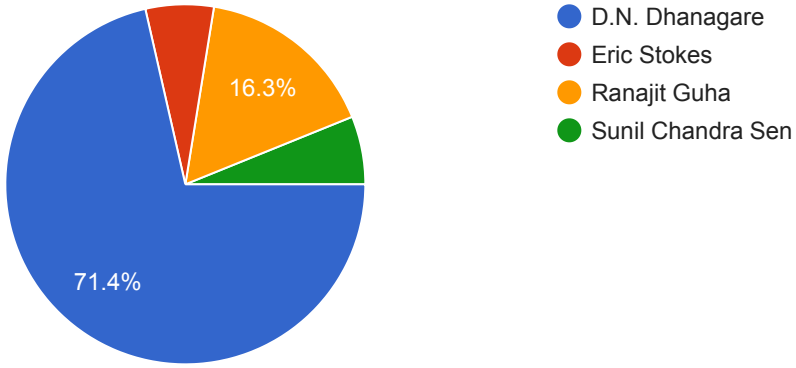
49 responses



7. Deccan Riot took place in which year?

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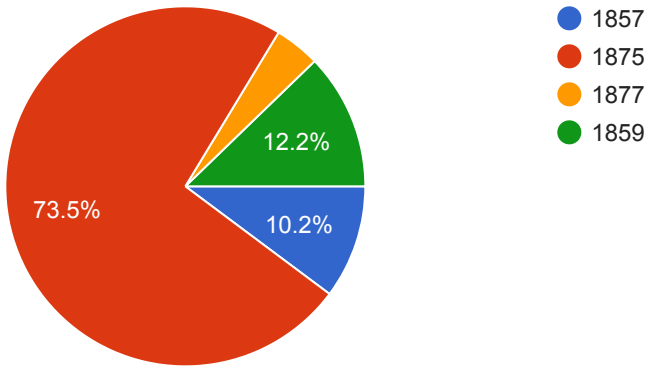

8.When did Pabna peasant uprising start?

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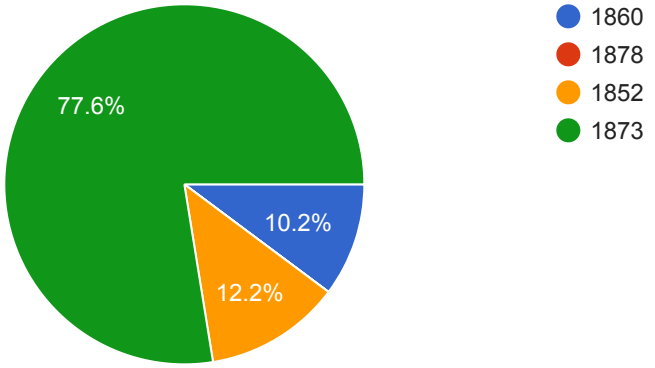

9. Sui Munda was the leader of

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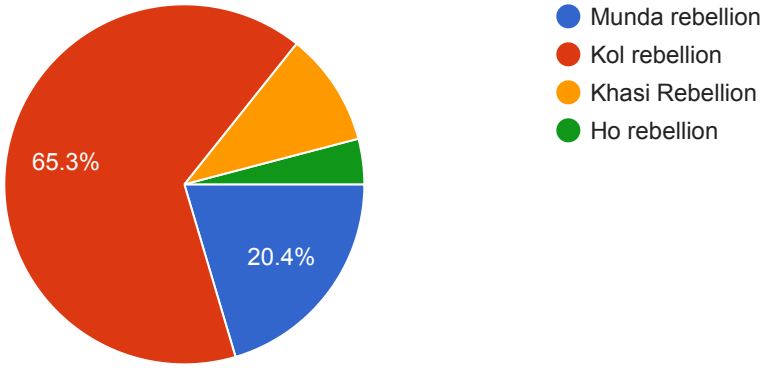
49 responses



10. Who are called as Dikus?

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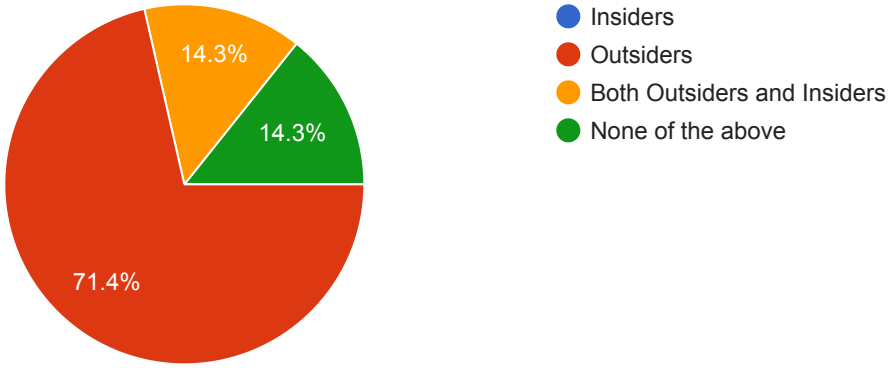
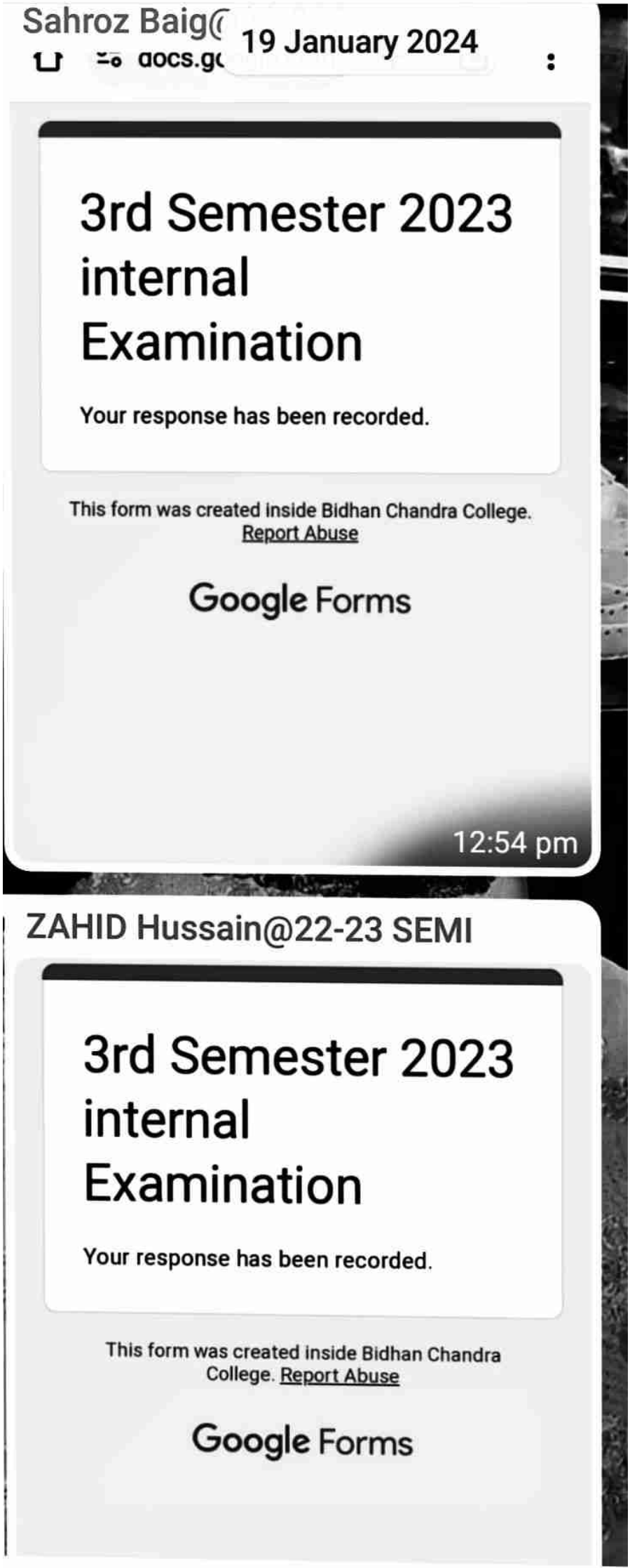
49 responses

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3rd Semester 2023 internal Examination
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3rd Semester 2023 internal Examination
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6 December 2023

7 December 2023

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H. O. D Sir 2
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Timestamp	Score	NAME-	REGISTRATION NO-	SESSION	DEGREE COURSE	
2/10/2024 12:14:57	20 / 30	Sweety Thandar		2023-2024	4 YEARS	
2/10/2024 12:15:26	26 / 30	Anuska Lahiri		2023-24	4 YEARS	
2/10/2024 12:15:36	12 / 30	Antara Roy		2023 - 2024	3 YEARS	
2/10/2024 12:15:49	26 / 30	Mahima Mukherjee		2023-24	4 YEARS	
2/10/2024 12:15:59	14 / 30	Diya Bouri	103231110272	2023 -2024	3 YEARS	
2/10/2024 12:16:22	16 / 30	Barnali Murmu	103231210358	2032-2024	4 YEARS	
2/10/2024 12:16:23	4 / 30	Sharmistha mukherjee		2023-24	3 YEARS	
2/10/2024 12:16:35	20 / 30	Ankita adhikari		2023-2024	3 YEARS	
2/10/2024 12:18:11	10 / 30	... ..		...	3 YEARS	মনস
2/10/2024 12:18:13	16 / 30	Antora Chowdhury		2023-2024	4 YEARS	
2/10/2024 12:18:20	14 / 30	Kajal Roy		2023-2024	4 YEARS	
2/10/2024 12:18:27	14 / 30	Beauty Sarkar		2023-24	3 YEARS	
2/10/2024 12:18:45	10 / 30	Karan kundu	103231110330	2024	3 YEARS	
2/10/2024 12:20:31	26 / 30	NAYAN CHATTERJEE		2023-2024	3 YEARS	
2/10/2024 12:20:44	8 / 30	Puja Bouri	No	2023-2024	4 YEARS	
2/10/2024 12:20:50	18 / 30	Suchismita Mukherjee		2023-2024	3 YEARS	
2/10/2024 12:21:15	26 / 30	Rabin Ghosh		2023-2024	3 YEARS	
2/10/2024 12:21:18	24 / 30	Susobhan Banerjee	103231110019	2023/2024	3 YEARS	
2/10/2024 12:21:28	26 / 30	Uday gope		2023-24	3 YEARS	
2/10/2024 12:22:06	22 / 30	Sk Arman	103231110345	2023-2024	3 YEARS	
2/10/2024 12:22:07	22 / 30	SOUVICK GHOSH		2023-2024	3 YEARS	
2/10/2024 12:22:10	16 / 30	Rohit mondal	103231110128	2023-24	3 YEARS	
2/10/2024 12:22:14	22 / 30	Bivas bauri	103231110265	2023-2024	3 YEARS	
2/10/2024 12:22:20	14 / 30	DEEP MAJI		23-24	3 YEARS	
2/10/2024 12:22:33	14 / 30	AMBOLAL KARMAABCC233340672		FIRST	3 YEARS	গীতগো
2/10/2024 12:22:36	22 / 30	Bijoy gorai		2023-2024	3 YEARS	
2/10/2024 12:22:47	16 / 30	Pintu Bhandary		23-24	3 YEARS	
2/10/2024 12:22:49	16 / 30	Malay Banerjee		23-24	3 YEARS	
2/10/2024 12:22:52	8 / 30	DIBENDU PAUL		2023-24	3 YEARS	
2/10/2024 12:22:57	24 / 30	Tamanna Parveen	103231210295	2023-2024	4 YEARS	
2/10/2024 12:23:08	8 / 30	Nilanjan Bhandari		2023- 2024	3 YEARS	
2/10/2024 12:23:10	26 / 30	Puspa Bouri	No	2023-2024	3 YEARS	
2/10/2024 12:23:13	26 / 30	sarmistha Roy	103231110370	2023_ 2024	3 YEARS	
2/10/2024 12:23:14	20 / 30	Seuity Patar		2023-2024	4 YEARS	
2/10/2024 12:23:16	26 / 30	Beauty Mondal	No	2023-2024	3 YEARS	
2/10/2024 12:23:22	26 / 30	Payel karmakar	103231110237	2023-2024	3 YEARS	
2/10/2024 12:23:27	18 / 30	Ambika karak		20,232,024	3 YEARS	
2/10/2024 12:23:36	26 / 30	Rumpa Sharma		2023-2024	3 YEARS	
2/10/2024 12:23:37	18 / 30	SONALI DAS	103231110190	2023-24	3 YEARS	
2/10/2024 12:23:37	26 / 30	Krishna Kundu	103231210322	2023-24	4 YEARS	
2/10/2024 12:23:40	8 / 30	Rina roy	No	2023-2024	4 YEARS	
2/10/2024 12:23:42	18 / 30	Supriya Das	103231210560	2023 - 2024	4 YEARS	
2/10/2024 12:23:42	20 / 30	Sanhati Das		2023 - 2024	4 YEARS	
2/10/2024 12:23:43	24 / 30	Akash sen	103231210338	2023-24	4 YEARS	
2/10/2024 12:23:43	22 / 30	Khusi Bouri	No	2023-2024	4 YEARS	
2/10/2024 12:23:55	22 / 30	Animesh Gorai		2023-2024	3 YEARS	
2/10/2024 12:24:04	26 / 30	Nildeep Bhattacharjee	103231210407	2023-24	4 YEARS	
2/10/2024 12:24:06	26 / 30	Prasanta dutta	103231110184	2023-2024	3 YEARS	
2/10/2024 12:24:07	26 / 30	Kushal Chakraborty	103231110022	2023-24	3 YEARS	
2/10/2024 12:24:08	22 / 30	JOY SINHA		2023-2024	3 YEARS	
2/10/2024 12:24:08	8 / 30	Manas Mondal		2023-2024	3 YEARS	
2/10/2024 12:24:10	24 / 30	Himanshu Bouri	103231110109	2023-24	3 YEARS	
2/10/2024 12:24:10	18 / 30	Sourav Dutta	103231110452	2023-2024	3 YEARS	
2/10/2024 12:24:12	8 / 30	Kajal Rajbanshi	No	2023-2024	4 YEARS	
2/10/2024 12:24:14	26 / 30	ROHIT SINGH	103231210297	2023-2024	4 YEARS	
2/10/2024 12:24:16	26 / 30	Avijit maji	103231110318	2023-2024	3 YEARS	
2/10/2024 12:24:19	26 / 30	Chayan mahanta	103231210305	2023-24	4 YEARS	
2/10/2024 12:24:21	8 / 30	Naziya parween	No	2023-2024	4 YEARS	
2/10/2024 12:24:22	26 / 30	Loknath Mukherjee	103231210108	2023-2024	4 YEARS	
2/10/2024 12:24:25	26 / 30	Anupam Sarkar	103231110016	2023-2024	3 YEARS	
2/10/2024 12:24:30	16 / 30	Dipti Das	103231110246	2023 / 2024	3 YEARS	
2/10/2024 12:24:33	16 / 30	Ditiya Mondal	No	2023_2024	3 YEARS	
2/10/2024 12:24:34	24 / 30	Subha Dutta	103231110001	2023-24	3 YEARS	
2/10/2024 12:24:38	22 / 30	Animesh Maji		2023-2024	3 YEARS	
2/10/2024 12:24:38	18 / 30	DAYAL BOURI		23/24	3 YEARS	
2/10/2024 12:24:40	24 / 30	Ananta bauri		2023-2024	3 YEARS	
2/10/2024 12:24:44	24 / 30	DIPAK RUIDAS		2023-2024	3 YEARS	
2/10/2024 12:24:45	16 / 30	Amit Roy		2023/2024	3 YEARS	
2/10/2024 12:24:46	24 / 30	Barin Bhattacharjee	103231210310	2023-2024	4 YEARS	
2/10/2024 12:24:48	14 / 30	Payel kumbhakar	No	2023-2024	3 YEARS	
2/10/2024 12:24:50	18 / 30	Nibedita char	No	2023-2024	3 YEARS	
2/10/2024 12:24:51	26 / 30	Sabuj Dhibar	103231110026	2023-2024	3 YEARS	
2/10/2024 12:24:52	18 / 30	Khusi Mitra	No	2023- 2024	3 YEARS	
2/10/2024 12:25:02	12 / 30	Mousumi Mondal		2023 2024	3 YEARS	
2/10/2024 12:25:31	14 / 30	Rahul chowhan	103231210551	2023-24	4 YEARS	চণ্ডীমঙ্গল হরপ্রসাদ শাস্ত্রী
2/10/2024 12:25:33	24 / 30	Saina khatun		2023-24	4 YEARS	গীতগোবিন্দ হরপ্রসাদ শাস্ত্রী
2/10/2024 12:25:34	28 / 30	Ritaik bauri		2023-2024	3 YEARS	চণ্ডীমঙ্গল হরপ্রসাদ শাস্ত্রী
2/10/2024 12:25:38	16 / 30	Madhumita Banerjee		2023-2024	4 YEARS	গীতগোবিন্দ হরপ্রসাদ শাস্ত্রী